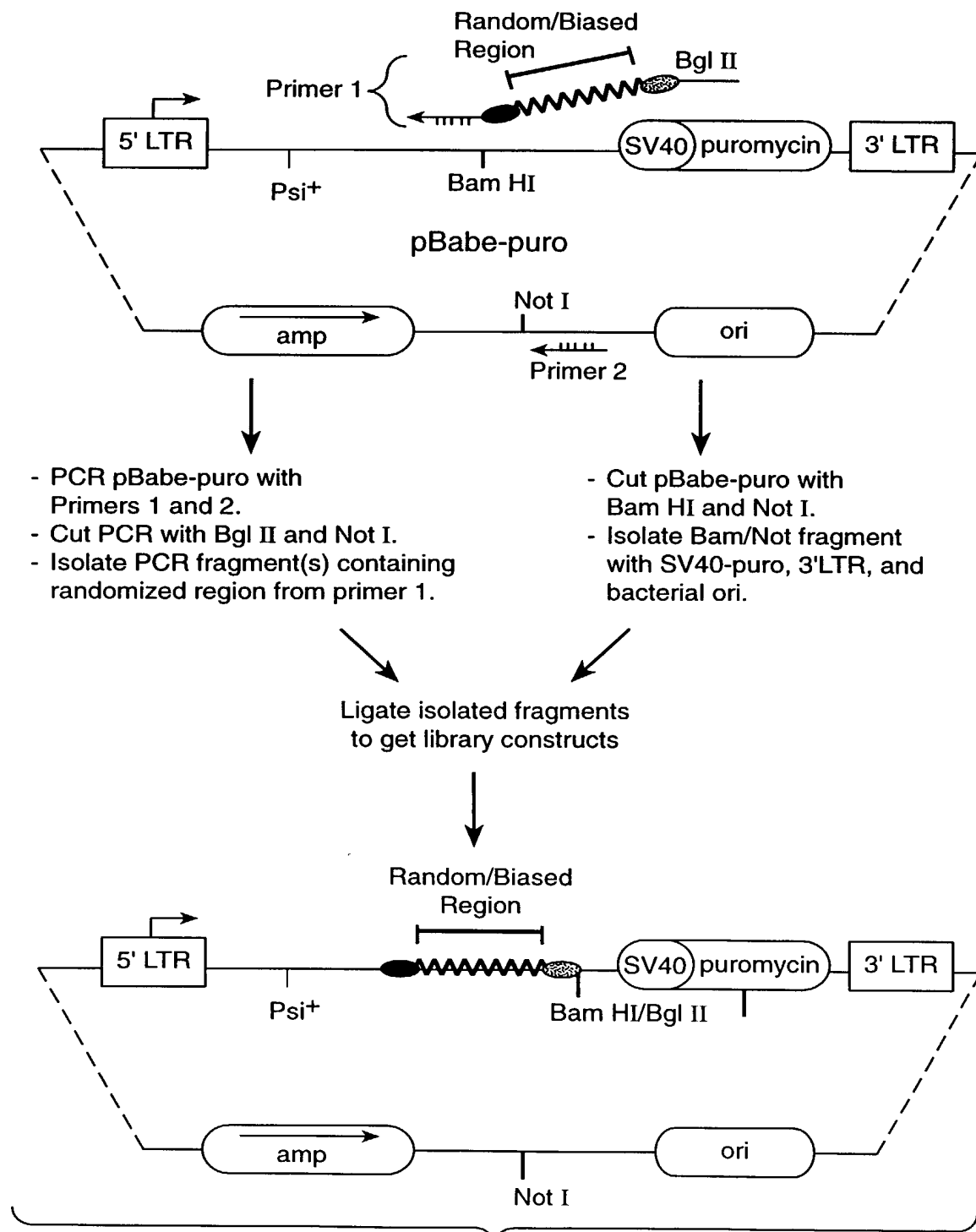


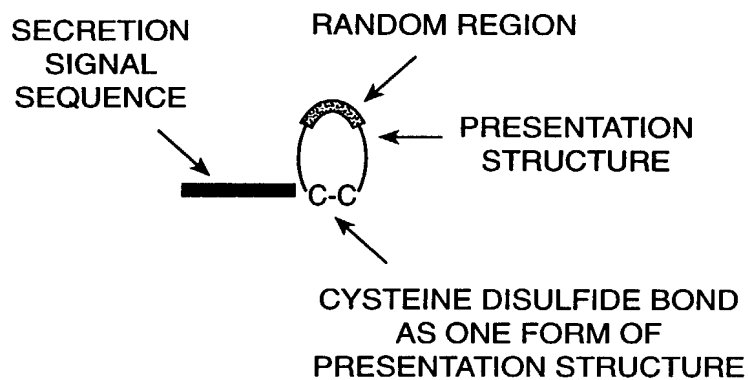
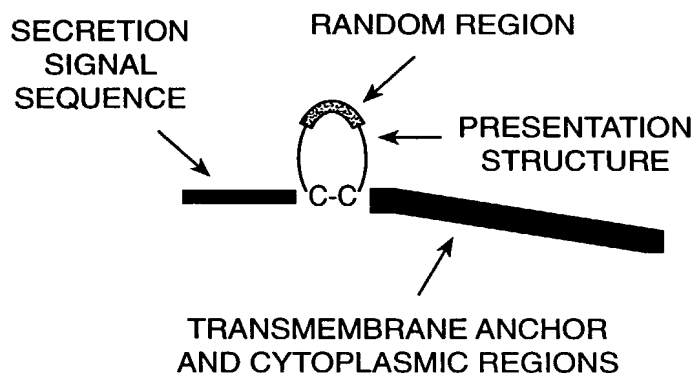
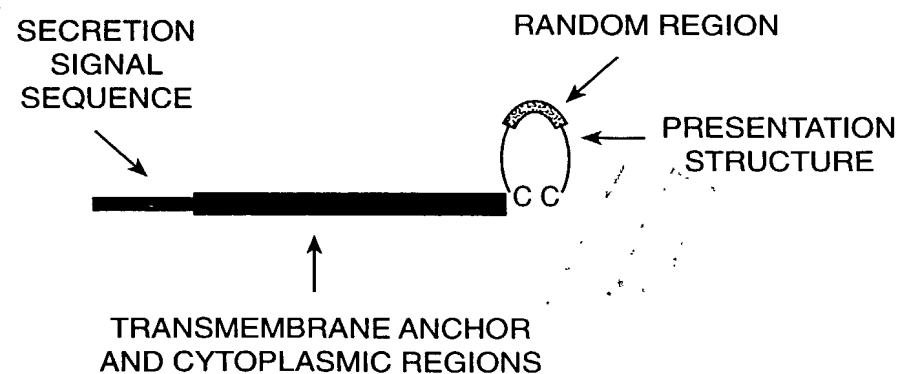
1 / 4

**FIG. 1**

The diagram illustrates the construction and screening of a random library for the Bst XI gene. The process is shown in four stages:

- Initial Template:** A DNA sequence starting with a Bst XI site, followed by a Kozak sequence, a start codon (Met), a Glycine codon (Gly), a wavy line representing a random region, and a stop codon (Stop) followed by Glycine (Gly), Glycine (Gly), Proline (Pro), and Proline (Pro) codons. A Bst XI site is also present at the end.
- ANNEAL:** The template is annealed to a complementary strand. The complementary strand contains the reverse sequence of the random region and the stop codon, followed by the Glycine, Glycine, Proline, and Proline codons. The stop codon is now part of the coding sequence.
- DNA POLYMERASE:** DNA polymerase is used to fill the gap between the stop codon and the end of the template, creating a continuous coding sequence.
- DIGEST WITH Bst XI, LIGATE:** The DNA is digested with Bst XI, which cuts at the Bst XI sites. The fragments are then ligated into a plasmid vector. The vector contains a 5' LTR, a Psi⁺ promoter, an ampicillin resistance gene (amp), an origin of replication (ori), and a 3' LTR. The Bst XI sites are used to insert the DNA fragment into the vector.

3 / 4

FIG._3A**FIG._3B****FIG._3C**

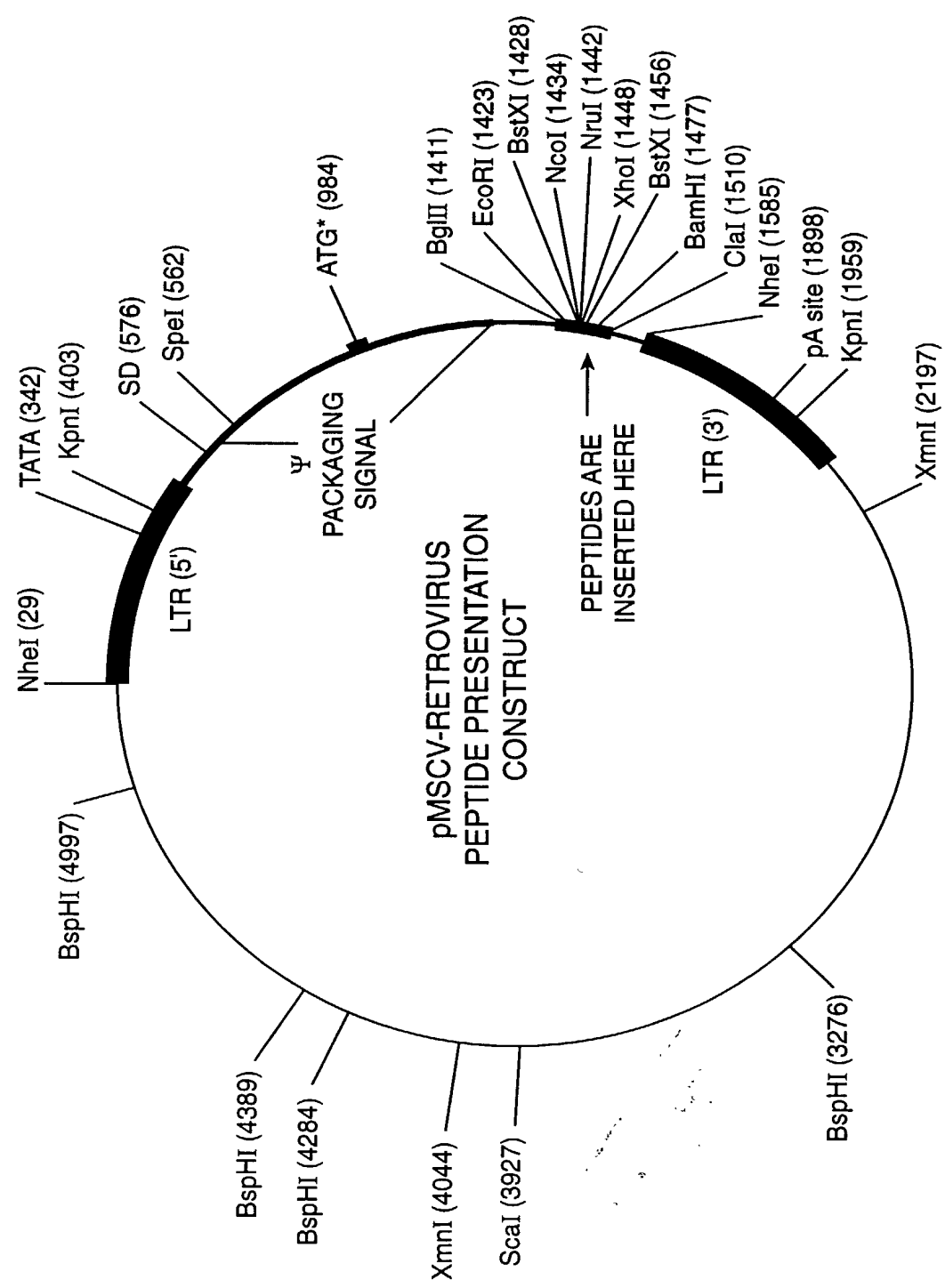


FIG..4